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# SCIENCE

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## A LECTURE UPON ACETYLENE.\*

A YEAR and a-half ago, if a chemist had been told that a new illuminating gas could be obtained from the evil-smelling product with which he was only too well acquainted in the laboratory, namely, the acetylene which forms whenever a Bunsen burner strikes down, he would have said that the idea was absurd. If a physicist had been told that the electric furnace was to be used to produce illuminating gas on a commercial scale he would have said it was quite impossible. But distinguished electricians were explaining that the telephone was impossible, while Graham Bell was inventing that instrument. So that scientific men will be well advised not to utter general opinions about the possibilities of the success of any new enterprise, and I shall endeavor to confine myself to the statement of certain facts and to the description of laboratory experiments, which constitute some new data which can be used to form an opinion regarding at least one side of this subject.

The chemistry of the manufacture of acetylene is very simple. Quicklime is reduced by carbon in an electric furnace to carbide of calcium, and enough carbon is taken not only to combine with the calcium to form carbide of calcium, but also to burn with the oxygen of the quicklime

\* Delivered before the Society of Arts at Boston, January 23, 1896.